REMARKS

I. Status of the claims

Claims 12-16, 18, 23-25, and 29-30 are pending. Claims 17, 19-22, and 26-28 have been canceled herewith without prejudice or disclaimer. Claims 1-11 were previously canceled. Of course, Applicants reserve the right to file one or more continuing applications to the canceled subject matter. Claims 12, 13, 18, 23, 24, and 25 have been amended for the reasons that follow. Claim 30 has been newly added for the reasons that follow.

Applicants will amend the specification to ensure that any disclosed trademarks are appropriately and accurately denoted when this application is considered in condition for allowance.

At the outset, Applicants thank Examiner Rawlings for extending the courtesy of a telephone discussion regarding the claims of this case on February 9, 2005, and to confirm that claim 12, directed to the monoclonal antibody deposited under DSM ACC 2457, is allowed and free of the prior art.

In this respect, and purely for the sake of expediting an allowance, Applicants have amended the present independent claims to ensure that the allowable monoclonal antibody is a positively recited element in the pertinent claims.

Specific explanations and support for each amendment now follows:

Claim 12

Claim 12 has been amended solely for grammatical purposes, i.e., to recite "A monoclonal antibody" instead of "Monoclonal antibody."

Claim 13

Claim 13 has been amended to clarify that the monoclonal antibody deposited under DSM ACC 2457 is used to determine the expression level of the Nup88 protein of SEQ ID NO: 2. The claim also clarifies that a tissue biopsy sample comprises a cancer cell if the

expression level of the SEQ ID NO: 2 protein, as determined by use of the antibody, is greater than the expression levels in "healthy or normal control tissue." Support for the latter terminology can be found at page 4, lines 23-26.

Claim 18

Claim 18 has been amended for grammatical purposes and to clarify that the protein in question is "detectable with the monoclonal antibody deposited under DSM ACC 2457." Claim 18 covers the identification of a cancer cell using an oligonucleotide probe that is complementary in sequence to a sequence that encodes the protein. Support for this concept and language can be found, for instance, at page 6, lines 4-11.

Claim 23

Claim 23 has been amended to ensure that the kit is a kit for "diagnosing cancer," which comprises the monoclonal antibody deposited under DSM ACC 2457 that binds to the protein of SEQ ID NO: 2.

Claim 24

Claim 24 has been amended to depend from claim 23 and, therefore, comprises the antibody of claim 23, as well as the originally-claimed nucleic acid probe that binds to a nucleic acid transcript encoding the protein of SEQ ID NO: 2.

Claim 25

Claim 25 has been amended to recite that the kit further comprises the protein of SEQ ID NO: 2, or antigenic part thereof, as a "control protein sample." Support can be found at page 6, lines 13-16.

Claim 30

New claim 30 is drawn to a similar method as recited in claim 13 but employs at least any one of (i) a monoclonal antibody and (ii) a recombinant or chimeric molecule that comprises at least six CDRs of the monoclonal antibody bearing the accession number DSM

ACC 2457, to bind to the protein of SEQ ID NO: 2. The Examiner acknowledges that the specification is enabling for each one of these antibody molecules. See page 10, subsection 13 through page 11.

The Examiner also has acknowledged that the specification is enabling for making and using a kit with a chimeric molecule comprising six CDRs from the DSM ACC 2457 antibody. See page 14, subsection 14.

II. In his affidavit, Professor Alonso's attests that the amendatory material, *i.e.*, the sequence pertaining to Y08612, consists of the same material incorporated by reference in the application

Claims 13-26 and 29 are rejected under 35 U.S.C. § 112, first paragraph. Claims 13, 23, and 24 were previously amended to recite the amino acid sequence depicted in SEQ ID NO: 2, which is the sequence presented in GenBank entry Y08612.

The Examiner states that "such an amendment must be accompanied by an affidavit or declaration . . . stating that the amendatory material consists of the same material incorporated by reference in the referencing application." Office Action at page 4.

Accordingly, Applicants submit herewith an affidavit (Exhibit A) by co-inventor Professor Angel Alonso, who attests that the amino acid sequence of SEQ ID NO: 2 presently recited and as presented in the Sequence Listing of October 7, 2003, "is identical in amino acid sequence" to that depicted in Y08612.

Applicants respectfully request, therefore, that this new matter rejection be withdrawn.

III. Claim 13 no longer recites "non-cancer cells"

Claims 13-26 and 29 are rejected under 35 U.S.C. § 112, first paragraph because there allegedly is no literal support for this cell type in the application. On the other hand, the Examiner acknowledges that the specification does disclose "normal" cell types. Office Action at page 5. Furthermore, the application discloses the use of "healthy" control tissue types. Specification at page 4, lines 23-26.

Accordingly, and to expedite prosecution, Applicants have amended claim 13 to clarify that the tested tissue biopsy sample is compared against "normal or healthy control tissue." Applicants respectfully request, therefore, that this rejection be withdrawn.

IV. Claim 18 now recites the "binding" of a nucleic acid molecule to the transcript encoding SEQ ID NO: 2, *i.e.*, Nup88

Claims 18 and 24 are rejected under 35 U.S.C. § 112, first paragraph because there allegedly is no literal support in the specification for either "annealing" or "specifically." On the other hand, the Examiner acknowledges that the specification discloses "the use of nucleic acid binding molecules binding to the transcript of Nup88." Office Action at page 6.

Accordingly, and to expedite prosecution, Applicants have amended claims 18 and 24 to better capture the claimed method. Now, claims 18 and 24 better clarify that a transcript that encodes the Nup88 protein, *i.e.*, the protein of SEQ ID NO: 2, is targeted by an oligonucleotide that "binds" to the transcript. Applicants have deleted "specifically" from the claims. Applicants respectfully request, therefore, that this rejection be withdrawn.

V. Claims 25 and 26 no longer recite "in part"

Claims 25 and 26 are rejected under 35 U.S.C. § 112, first paragraph because there allegedly is no literal support in the specification for "in part." The Examiner acknowledges that the specification does disclose an "*antigenic* part" (emphasis added) of the claimed monoclonal antibody.

Accordingly, Applicants have amended claim 25 to replace "in part" with "antigenic part." Applicants have canceled claim 26. Applicants respectfully request, therefore, that this rejection be withdrawn.

VI. The amended claims comply with the written description requirement

Claims 18, 23, 25, and 29 are rejected under 35 U.S.C. § 112, first paragraph. According to the Examiner, the kit of claim 23, which recited a "protein binding molecule," comprises "a broad genus of substances that bind the protein of SEQ ID NO: 2," but the specification describes "an antibody that binds the protein."

Applicants have amended claim 23 to delete "protein binding molecule" and to recite, instead, the monoclonal antibody deposited under DSM ACC 2457, which is specific for the protein of SEQ ID NO: 2. Applicants respectfully request, therefore, that this rejection be withdrawn.

Claim 18 is rejected for reciting "a nucleic acid binding molecule," which according to the Examiner, "is not necessarily a nucleic acid." Accordingly, Applicants have amended claim 18 to make clear that it is an "oligonucleotide" that is used to determine whether a sample comprises a cancer cell if the oligonucleotide "binds" to a transcript encoding the recited protein.

VII. The specification is enabling for the presently claimed method

Claims 13-22 and 29 are rejected under 35 U.S.C. § 112, first paragraph allegedly because "the amount of guidance, direction, and exemplification disclosed by Applicant is not deemed sufficient to enable the skilled artisan to use the claimed invention without a need to perform an undue amount of additional experimentation." Office Action at page 14.

On the other hand, the Examiner acknowledges that the specification is "enabling for using a method for identifying the presence of a malignant tumor in a tissue biopsy sample comprising determining the amount of the polypeptide of SEQ ID NO: 2 using an antibody that binds the polypeptide of SEQ ID NO: 2, wherein the antibody is a monoclonal antibody, a polyclonal antibody, or a recombinant or chimeric molecule comprising each of the six CDRs of the monoclonal antibody bearing the accession number DSM ACC 2457." Office Action at pages 10 and 11.

Without acquiescing to the rationale for rejecting the claims, and to expedite prosecution, Applicants have amended claim 13 to recite, specifically, that the monoclonal antibody of DSM ACC 2457 is used to determine the expression levels of the SEQ ID NO: 2 protein in the tissue biopsy sample. Applicants respectfully request, therefore, that this rejection be withdrawn.

VIII. The kit of claim 23 is a kit for diagnosing cancer and is, therefore, enabled

Claims 23-26 are rejected under 35 U.S.C. § 112, first paragraph. According to the Examiner there is insufficient written description and guidance for a kit for diagnosing diseases other than cancer.

Accordingly, Applicants have amended claim 23 to recite that the kit is a kit for diagnosing cancer, which the Examiner acknowledges is enabled. See page 14, subsection 14 of the Office Action. Furthermore, Applicants have amended claim 23 to recite that the kit comprises the monoclonal antibody deposited under DSM ACC 2457. Applicants respectfully request, therefore, that this rejection be withdrawn.

The preamble of claim 13 clarifies that the claimed method identifies "the presence" of a cancer cell and is not, therefore, indefinite

Claims 13-22 and 29 are rejected under 35 U.S.C. § 112, second paragraph because "the preamble of claim 13 recites 'for identifying a cancer cell" and because "[I]t cannot be ascertained how determining if a sample comprises a cancer cell identifies a cancer cell." Office Action at page 16.

On the other hand, the Examiner acknowledges that "[I]t may be said that determining if a sample comprises a cancer cell identifies the presence of cancer cell," but notes that "claim 13 does not recite" such a step.

Applicants have amended the preamble of claim 13, therefore, to recite that the claimed method is drawn to determining the "presence" of a cancer cell in a tissue biopsy by determining the expression levels of the SEQ ID NO: 2 protein. Applicants respectfully request, therefore, that this rejection be withdrawn.

IX. Martinez *et al.*, 1999 does not teach the monoclonal antibody deposited under DSM ACC 2457 and, therefore, does not anticipate the claimed invention

Claims 13, 15-17, and 29 are rejected under 35 U.S.C. § 102(a) as being allegedly anticipated by Martinez *et al.*, Cancer Res. 59, pp. 5408-5411, 1999, because Martinez

teaches analyzing tissue biopsy samples to determine if Nup88, *i.e.*, the protein of SEQ ID NO: 2, is overexpressed.

Martinez uses a polyclonal antibody, however, not a monoclonal antibody, nor the monoclonal antibody deposited under DSM ACC 2457. Accordingly, Martinez does not anticipate claims 13, 15-17, and 29. Applicants respectfully request, therefore, that this rejection be withdrawn.

X. The Boehringer Mannheim catalog entry does not teach a kit that comprises the monoclonal antibody deposited under DSM ACC 2457 and, therefore, does not anticipate claim 24

Claim 24 is rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Boehringer Mannheim Biochemicals, 1994 catalog No. 1034 731/1006 924.

The Boehringer Mannheim catalog teaches a kit that comprises random primers but does not teach a kit comprising the monoclonal antibody deposited under DSM ACC 2457. Office Action at page 18. The kit of claim 24, however, requires the inclusion of the monoclonal antibody deposited under DSM ACC 2457, by virtue of now depending from claim 23. Accordingly, the catalog entry does not anticipate claim 24 and Applicants respectfully request, therefore, that this rejection be withdrawn.

XI. No combination of the prior art would have motivated the person of skill in the art to modify the prior art to use of the monoclonal antibody deposited under DSM ACC 2457 in the claimed methods

(a) Claims 13, 14, and 18 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Martinez *et al.*, Cancer Res. 59, pp. 5408-5411, 1999.

(b) Claims 13, 17, 19, 21, and 29 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Martinez *et al.*, Cancer Res. 59, pp. 5408-5411, 1999, in view of U.S. Patent No. 5,366,866.

(c) Claims 23 and 25 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Martinez *et al.*, Cancer Res. 59, pp. 5408-5411, 1999, in view of U.S. Patent No. 5,366,866.

None of these combinations of the prior art teach or suggest the use of the precise monoclonal antibody deposited under DSM ACC 2457. Accordingly, Applicants assert that none of these combinations render the claimed invention unpatentable and respectfully request that each rejection be withdrawn.

XII. Conclusion

Applicants believe that the present application is in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date February 11, 2005

By V.S. McCall
for: #55,459

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 672-5538
Facsimile: (202) 672-5399

Michele M. Simkin
Attorney for Applicants
Registration No. 34,717